

# SEQUENCE LISTING

<110> Bristol-Myers Squibb Company

<120> POLYNUCLEOTIDES ENCODING A NOVEL GLYCINE RECEPTOR ALPHA SUBUNIT EXPRESSED IN THE GASTROINTESTINAL TRACT, HGRA4, and SPLICE VARIANT THEREOF

<130> D0079 NP

<150> US 60/269,535

<151> 2001-02-16

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<170> PatentIn version 3.0

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<400> 10

Met	Tyr	Ser	Phe	Asn	Thr	Leu	Arg	Leu	Tyr	Leu	Ser	Gly	Ala	Ile	Val	1	5	10	15
Phe	Phe	Ser	Leu	Ala	Ala	Ser	Lys	Glu	Ala	Glu	Ala	Ala	Arg	Ser	Ala	20	25	30	
Thr	Lys	Pro	Met	Ser	Pro	Ser	Asp	Phe	Leu	Asp	Lys	Leu	Met	Gly	Arg	35	40	45	
Thr	Ser	Gly	Tyr	Asp	Ala	Arg	Ile	Arg	Pro	Asn	Phe	Lys	Gly	Pro	Pro	50	55	60	
Val	Asn	Val	Ser	Cys	Asn	Ile	Phe	Ile	Asn	Ser	Phe	Gly	Ser	Ile	Ala	65	70	75	80
Glu	Thr	Thr	Met	Asp	Tyr	Arg	Val	Asn	Ile	Phe	Leu	Arg	Gln	Gln	Trp	85	90	95	
Asn	Asp	Pro	Arg	Leu	Ala	Tyr	Asn	Glu	Tyr	Pro	Asp	Asp	Ser	Leu	Asp	100	105	110	
Leu	Asp	Pro	Ser	Met	Leu	Asp	Ser	Ile	Trp	Lys	Pro	Asp	Leu	Phe	Phe	115	120	125	
Ala	Asn	Glu	Lys	Gly	Ala	His	Phe	His	Glu	Ile	Thr	Thr	Asp	Asn	Lys	130	135	140	
Leu	Leu	Arg	Ile	Ser	Arg	Asn	Gly	Asn	Val	Leu	Tyr	Ser	Ile	Arg	Ile	145	150	155	160
Thr	Leu	Thr	Leu	Ala	Cys	Pro	Met	Asp	Leu	Lys	Asn	Phe	Pro	Met	Asp	165	170	175	
Val	Gln	Thr	Cys	Ile	Met	Gln	Leu	Glu	Ser	Phe	Gly	Tyr	Thr	Met	Asn	180	185	190	

Asp	Leu	Ile	Phe	Glu	Trp	Gln	Glu	Gln	Gly	Ala	Val	Gln	Val	Ala	Asp
	195						200					205			
Gly	Leu	Thr	Leu	Pro	Gln	Phe	Ile	Leu	Lys	Glu	Glu	Lys	Asp	Leu	Arg
	210					215					220				
Tyr	Cys	Thr	Lys	His	Tyr	Asn	Thr	Gly	Lys	Phe	Thr	Cys	Ile	Glu	Ala
225					230					235					240
Arg	Phe	His	Leu	Glu	Arg	Gln	Met	Gly	Tyr	Tyr	Leu	Ile	Gln	Met	Tyr
				245					250					255	
Ile	Pro	Ser	Leu	Leu	Ile	Val	Ile	Leu	Ser	Trp	Ile	Ser	Phe	Trp	Ile
			260					265						270	
Asn	Met	Asp	Ala	Ala	Pro	Ala	Arg	Val	Gly	Leu	Gly	Ile	Thr	Thr	Val
		275					280					285			
Leu	Thr	Met	Thr	Thr	Gln	Ser	Ser	Gly	Ser	Arg	Ala	Ser	Leu	Pro	Lys
	290					295					300				
Val	Ser	Tyr	Val	Lys	Ala	Ile	Asp	Ile	Trp	Met	Ala	Val	Cys	Leu	Leu
305					310					315					320
Phe	Val	Phe	Ser	Ala	Leu	Leu	Glu	Tyr	Ala	Ala	Val	Asn	Phe	Val	Ser
				325					330					335	
Arg	Gln	His	Lys	Glu	Leu	Leu	Arg	Phe	Arg	Arg	Lys	Arg	Arg	His	His
			340					345					350		
Lys	Glu	Asp	Glu	Ala	Gly	Glu	Gly	Arg	Phe	Asn	Phe	Ser	Ala	Tyr	Gly
		355					360					365			
Met	Gly	Pro	Ala	Cys	Leu	Gln	Ala	Lys	Asp	Gly	Ile	Ser	Val	Lys	Gly
	370					375					380				
Ala	Asn	Asn	Ser	Asn	Thr	Thr	Asn	Pro	Pro	Pro	Ala	Pro	Ser	Lys	Ser
385					390					395					400
Pro	Glu	Glu	Met	Arg	Lys	Leu	Phe	Ile	Gln	Arg	Ala	Lys	Lys	Ile	Asp
				405					410					415	
Lys	Ile	Ser	Arg	Ile	Gly	Phe	Pro	Met	Ala	Phe	Leu	Ile	Phe	Asn	Met
			420					425					430		
Phe	Tyr	Trp	Ile	Ile	Tyr	Lys	Ile	Val	Arg	Arg	Glu	Asp	Val	His	Asn
	435						440					445			

Gln

<210> 11  
 <211> 465  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 11

Met	Ala	His	Val	Arg	His	Phe	Arg	Thr	Leu	Val	Ser	Gly	Phe	Tyr	Phe	1	5	10	15
Trp	Glu	Ala	Ala	Leu	Leu	Leu	Ser	Leu	Val	Ala	Thr	Lys	Glu	Thr	Asp	20	25	30	
Ser	Ala	Arg	Ser	Arg	Ser	Ala	Pro	Met	Ser	Pro	Ser	Asp	Phe	Leu	Asp	35	40	45	
Lys	Leu	Met	Gly	Arg	Thr	Ser	Gly	Tyr	Asp	Ala	Arg	Ile	Arg	Pro	Asn	50	55	60	
Phe	Lys	Gly	Pro	Pro	Val	Asn	Val	Thr	Cys	Asn	Ile	Phe	Ile	Asn	Ser	65	70	75	
Phe	Gly	Ser	Ile	Ala	Glu	Thr	Thr	Met	Asp	Tyr	Arg	Val	Asn	Ile	Phe	85	90	95	
Leu	Arg	Gln	Lys	Trp	Asn	Asp	Pro	Arg	Leu	Ala	Tyr	Ser	Glu	Tyr	Pro	100	105	110	
Asp	Asp	Ser	Leu	Asp	Leu	Asp	Pro	Ser	Met	Leu	Asp	Ser	Ile	Trp	Lys	115	120	125	
Pro	Asp	Leu	Phe	Phe	Ala	Asn	Glu	Lys	Gly	Ala	Asn	Phe	His	Glu	Val	130	135	140	
Thr	Thr	Asp	Asn	Lys	Leu	Leu	Arg	Ile	Phe	Lys	Asn	Gly	Asn	Val	Leu	145	150	155	
Tyr	Ser	Ile	Arg	Leu	Thr	Leu	Thr	Leu	Ser	Cys	Pro	Met	Asp	Leu	Lys	165	170	175	
Asn	Phe	Pro	Met	Asp	Val	Gln	Thr	Cys	Ile	Met	Gln	Leu	Glu	Ser	Phe	180	185	190	
Gly	Tyr	Thr	Met	Asn	Asp	Leu	Ile	Phe	Glu	Trp	Gln	Asp	Glu	Ala	Pro	195	200	205	
Val	Gln	Val	Ala	Glu	Gly	Leu	Thr	Leu	Pro	Gln	Phe	Leu	Leu	Lys	Glu	210	215	220	
Glu	Lys	Asp	Leu	Arg	Tyr	Cys	Thr	Lys	His	Tyr	Asn	Thr	Gly	Lys	Phe	225	230	235	
Thr	Cys	Ile	Glu	Val	Arg	Phe	His	Leu	Glu	Arg	Gln	Met	Gly	Tyr	Tyr	245	250	255	
Leu	Ile	Gln	Met	Tyr	Ile	Pro	Ser	Leu	Leu	Ile	Val	Ile	Leu	Ser	Trp	260	265	270	
Val	Ser	Phe	Trp	Ile	Asn	Met	Asp	Ala	Ala	Pro	Ala	Arg	Val	Ala	Leu	275	280	285	
Gly	Ile	Thr	Thr	Val	Leu	Thr	Met	Thr	Thr	Gln	Ser	Ser	Gly	Ser	Arg	290	295	300	

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Ala Ser Leu Pro Lys Val Ser Tyr Val Lys Ala Ile Asp Ile Trp Met
305                      310                      315                      320

Ala Val Cys Leu Leu Phe Val Phe Ser Ala Leu Leu Glu Tyr Ala Ala
                      325                      330                      335

Val Asn Phe Val Ser Arg Gln His Lys Glu Leu Leu Arg Phe Arg Arg
                      340                      345                      350

Lys Arg Lys Asn Lys Thr Glu Ala Phe Ala Leu Glu Lys Phe Tyr Arg
                      355                      360                      365

Phe Ser Asp Met Asp Asp Glu Val Arg Glu Ser Arg Phe Ser Phe Thr
                      370                      375                      380

Ala Tyr Gly Met Gly Pro Cys Leu Gln Ala Lys Asp Gly Met Thr Pro
385                      390                      395                      400

Lys Gly Pro Asn His Pro Val Gln Val Met Pro Lys Ser Pro Asp Glu
                      405                      410                      415

Met Arg Lys Val Phe Ile Asp Arg Ala Lys Lys Ile Asp Thr Ile Ser
420                      425                      430

Arg Ala Cys Phe Pro Leu Ala Phe Leu Ile Phe Asn Ile Phe Tyr Trp
435                      440                      445

Val Ile Tyr Lys Ile Leu Arg His Glu Asp Ile His His Gln Gln Gln
450                      455                      460

Asp
465

<210> 12
<211> 337
<212> PRT
<213> Mus musculus

<220>
<221> UNSURE
<222> (322)..(322)
<223> wherein "X" is any amino acid.

<400> 12

Val Ala Leu Ala Lys Glu Asp Val Lys Ser Gly Leu Lys Gly Ser Gln
1                      5                      10                      15

Pro Met Ser Pro Ser Asp Phe Leu Asp Lys Leu Met Gly Arg Thr Ser
20                      25                      30

Gly Tyr Asp Ala Arg Ile Arg Pro Asn Phe Lys Gly Pro Pro Val Asn
35                      40                      45

Val Thr Cys Asn Ile Phe Ile Asn Ser Phe Gly Ser Val Thr Glu Thr

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50

55

60

Thr Met Asp Tyr Arg Val Asn Val Phe Leu Arg Gln Gln Trp Asn Asp  
65 70 75 80

Pro Arg Leu Ala Tyr Arg Glu Tyr Pro Asp Asp Ser Leu Asp Leu Asp  
85 90 95

Pro Ser Met Leu Asp Ser Ile Trp Lys Pro Asp Leu Phe Phe Ala Asn  
100 105 110

Glu Lys Gly Ala Asn Phe His Glu Val Thr Thr Asp Asn Lys Leu Leu  
115 120 125

Arg Ile Phe Lys Asn Gly Asn Val Leu Tyr Ser Ile Arg Leu Thr Leu  
130 135 140

Ile Leu Ser Cys Pro Met Asp Leu Lys Asn Phe Pro Met Asp Ile Gln  
145 150 155 160

Thr Cys Thr Met Gln Leu Glu Ser Phe Gly Tyr Thr Met Asn Asp Leu  
165 170 175

Met Phe Glu Trp Leu Glu Asp Ala Pro Ala Val Gln Val Ala Glu Gly  
180 185 190

Leu Thr Leu Pro Gln Phe Ile Leu Arg Asp Glu Lys Asp Leu Gly Tyr  
195 200 205

Cys Thr Lys His Tyr Asn Thr Gly Lys Phe Thr Cys Ile Glu Val Lys  
210 215 220

Phe His Leu Glu Arg Gln Met Gly Tyr Tyr Leu Ile Gln Met Tyr Ile  
225 230 235 240

Pro Ser Leu Leu Ile Val Ile Leu Ser Trp Val Ser Phe Trp Ile Asn  
245 250 255

Met Asp Ala Ala Pro Ala Arg Val Gly Leu Gly Ile Thr Thr Val Leu  
260 265 270

Thr Met Thr Thr Gln Ser Ser Gly Ser Arg Ala Ser Leu Pro Lys Val  
275 280 285

Ser Tyr Val Lys Ala Ile Asp Ile Trp Met Ala Val Cys Leu Leu Phe  
290 295 300

Val Phe Ala Ala Leu Leu Glu Tyr Ala Ala Val Asn Phe Val Ser Arg  
305 310 315 320

Gln Xaa Lys Glu Phe Met Arg Leu Arg Arg Arg Gln Arg Arg Gln Arg  
325 330 335

Met

&lt;210&gt; 13



<400> 13

17

Trp Val Ser Phe Trp Ile Asn Met Asp Ala Ala Pro Ala Arg Val Ala  
 275 280 285  
 Leu Gly Ile Thr Thr Val Leu Thr Met Thr Thr Gln Ser Ser Gly Ser  
 290 295 300  
 Arg Ala Ser Leu Pro Lys Val Ser Tyr Val Lys Ala Ile Asp Ile Trp  
 305 310 315 320  
 Met Ala Val Cys Leu Leu Phe Val Phe Ala Ala Leu Leu Glu Tyr Ala  
 325 330 335  
 Ala Val Asn Phe Val Ser Arg Gln His Lys Glu Phe Leu Arg Leu Arg  
 340 345 350  
 Arg Arg Gln Lys Arg Gln Asn Lys Glu Glu Asp Val Thr Arg Glu Ser  
 355 360 365  
 Arg Phe Asn Phe Ser Gly Tyr Gly Met Gly His Cys Leu Gln Val Lys  
 370 375 380  
 Asp Gly Thr Ala Val Lys Ala Thr Pro Ala Asn Pro Leu Pro Gln Pro  
 385 390 395 400  
 Pro Lys Asp Gly Asp Ala Ile Lys Lys Lys Phe Val Asp Arg Ala Lys  
 405 410 415  
 Arg Ile Asp Thr Ile Ser Arg Ala Ala Phe Pro Leu Ala Phe Leu Ile  
 420 425 430  
 Phe Asn Ile Phe Tyr Trp Ile Thr Tyr Lys Ile Ile Arg His Glu Asp  
 435 440 445  
 Val His Lys Lys  
 450  
 <210> 14  
 <211> 298  
 <212> PRT  
 <213> homo sapiens  
 <400> 14

Pro Ser Asp Phe Leu Asp Lys Leu Met Gly Arg Thr Ser Gly Tyr Asp  
 1 5 10 15  
 Ala Arg Ile Arg Pro Asn Phe Lys Gly Pro Pro Val Asn Val Thr Cys  
 20 25 30  
 Asn Ile Phe Ile Asn Ser Phe Ser Ser Val Thr Lys Thr Thr Met Asp  
 35 40 45  
 Tyr Arg Val Asn Val Phe Leu Arg Gln Gln Trp Asn Asp Pro Arg Leu  
 50 55 60  
 Ser Tyr Arg Glu Tyr Pro Asp Asp Ser Leu Asp Leu Asp Pro Ser Met  
 65 70 75 80

Leu Asp Ser Ile Trp Lys Pro Asp Leu Phe Phe Ala Asn Glu Lys Gly  
                     85                    90                    95  
 Ala Asn Phe His Glu Val Thr Thr Asp Asn Lys Leu Leu Arg Ile Phe  
                     100                    105                    110  
 Lys Asn Gly Asn Val Leu Tyr Ser Ile Arg Leu Thr Leu Ile Leu Ser  
                     115                    120                    125  
 Cys Leu Met Asp Leu Lys Asn Phe Pro Met Asp Ile Gln Thr Cys Thr  
                     130                    135                    140  
 Met Gln Leu Glu Ser Phe Gly Tyr Thr Met Lys Asp Leu Val Phe Glu  
                     145                    150                    155                    160  
 Trp Leu Glu Asp Ala Pro Ala Val Gln Val Ala Glu Gly Leu Thr Leu  
                     165                    170                    175  
 Pro Gln Phe Ile Leu Arg Asp Glu Lys Asp Leu Gly Cys Cys Thr Lys  
                     180                    185                    190  
 His Tyr Asn Thr Gly Lys Phe Thr Cys Ile Glu Val Lys Phe His Leu  
                     195                    200                    205  
 Glu Arg Gln Met Gly Tyr Tyr Leu Ile Gln Met Tyr Ile Pro Ser Leu  
                     210                    215                    220  
 Leu Ile Val Ile Leu Ser Trp Val Ser Phe Trp Ile Asn Met Asp Ala  
                     225                    230                    235                    240  
 Ala Pro Ala Arg Val Gly Leu Gly Ile Thr Thr Val Leu Thr Met Thr  
                     245                    250                    255  
 Thr Gln Ser Ser Gly Ser Arg Ala Ser Leu Pro Lys Val Ser Tyr Val  
                     260                    265                    270  
 Lys Ala Ile Asp Ile Trp Met Ala Val Cys Leu Leu Phe Val Phe Ala  
                     275                    280                    285  
 Ala Leu Leu Glu Tyr Ala Ala Ile Asn Phe  
                     290                    295

<210> 15  
 <211> 312  
 <212> PRT  
 <213> homo sapiens

<400> 15

Pro Ser Asp Phe Leu Asp Lys Leu Met Gly Arg Thr Ser Gly Tyr Asp  
 1                    5                    10                    15  
 Ala Arg Ile Arg Pro Asn Phe Lys Gly Pro Pro Val Asn Val Thr Cys  
                     20                    25                    30  
 Asn Ile Phe Ile Asn Ser Phe Ser Ser Val Thr Lys Thr Thr Met Asp

35					40					45					
Tyr	Arg	Val	Asn	Val	Phe	Leu	Arg	Gln	Gln	Trp	Asn	Asp	Pro	Arg	Leu
50						55					60				
Ser	Tyr	Arg	Glu	Tyr	Pro	Asp	Asp	Ser	Leu	Asp	Leu	Asp	Pro	Ser	Met
65					70					75					80
Leu	Asp	Ser	Ile	Trp	Lys	Pro	Asp	Leu	Phe	Phe	Ala	Asn	Glu	Lys	Gly
				85					90					95	
Ala	Asn	Phe	His	Glu	Val	Thr	Thr	Asp	Asn	Lys	Leu	Leu	Arg	Ile	Phe
			100					105					110		
Lys	Asn	Gly	Asn	Val	Leu	Tyr	Ser	Ile	Arg	Leu	Thr	Leu	Ile	Leu	Ser
		115					120					125			
Cys	Leu	Met	Asp	Leu	Lys	Asn	Phe	Pro	Met	Asp	Ile	Gln	Thr	Cys	Thr
	130					135					140				
Met	Gln	Leu	Glu	Ser	Ser	Ser	Ile	Leu	Cys	Ser	Pro	Leu	Pro	Ser	Leu
145						150				155					160
Ser	Leu	Ser	Val	Gly	Tyr	Thr	Met	Lys	Asp	Leu	Val	Phe	Glu	Trp	Leu
				165					170					175	
Glu	Asp	Ala	Pro	Ala	Val	Gln	Val	Ala	Glu	Gly	Leu	Thr	Leu	Pro	Gln
			180					185					190		
Phe	Ile	Leu	Arg	Asp	Glu	Lys	Asp	Leu	Gly	Cys	Cys	Thr	Lys	His	Tyr
		195					200					205			
Asn	Thr	Gly	Lys	Phe	Thr	Cys	Ile	Glu	Val	Lys	Phe	His	Leu	Glu	Arg
	210					215					220				
Gln	Met	Gly	Tyr	Tyr	Leu	Ile	Gln	Met	Tyr	Ile	Pro	Ser	Leu	Leu	Ile
225					230					235					240
Val	Ile	Leu	Ser	Trp	Val	Ser	Phe	Trp	Ile	Asn	Met	Asp	Ala	Ala	Pro
				245					250					255	
Ala	Arg	Val	Gly	Leu	Gly	Ile	Thr	Thr	Val	Leu	Thr	Met	Thr	Thr	Gln
			260					265					270		
Ser	Ser	Gly	Ser	Arg	Ala	Ser	Leu	Pro	Lys	Val	Ser	Tyr	Val	Lys	Ala
		275					280					285			
Ile	Asp	Ile	Trp	Met	Ala	Val	Cys	Leu	Leu	Phe	Val	Phe	Ala	Ala	Leu
	290					295					300				
Leu	Glu	Tyr	Ala	Ala	Ile	Asn	Phe								
305					310										

<210> 16  
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 <213> homo sapiens

<400> 16

Asn Asp Pro Arg Leu Ser Tyr Arg Glu Tyr Pro Asp Asp  
1 5 10

<210> 17

<211> 13

<212> PRT

<213> homo sapiens

<400> 17

Gly Asn Val Leu Tyr Ser Ile Arg Leu Thr Leu Ile Leu  
1 5 10

<210> 18

<211> 13

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<400> 18

Glu Ser Phe Gly Tyr Thr Met Lys Asp Leu Val Phe Glu  
1 5 10

<210> 19

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<213> homo sapiens

<400> 19

Thr Lys His Tyr Asn Thr Gly Lys Phe Thr Cys Ile Glu  
1 5 10

<210> 20

<211> 13

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<213> homo sapiens

<400> 20

Leu Arg Glu Gly Glu Thr Thr Arg Lys Leu Tyr Val Asp  
1 5 10

<210> 21

<211> 12

<212> PRT

<213> homo sapiens

<400> 21

Arg Glu Gly Glu Thr Thr Arg Lys Leu Tyr Val Asp  
1 5 10

<210> 22

<211> 14  
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<400> 22

Lys Gly Pro Pro Val Asn Val Thr Cys Asn Ile Phe Ile Asn  
1 5 10

<210> 23  
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<212> PRT  
<213> homo sapiens

<400> 23

Met Gly Tyr Tyr Leu Ile Gln Met Tyr Ile Pro Ser Leu Leu Ile Val  
1 5 10 15

Ile Leu Ser Trp Val Ser Phe Trp Ile Asn Met  
20 25

<210> 24  
<211> 18  
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<400> 24

Val Gly Leu Gly Ile Thr Thr Val Leu Thr Met Thr Thr Gln Ser Ser  
1 5 10 15

Gly Ser

<210> 25  
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<400> 25

Ile Trp Met Ala Val Cys Leu Leu Phe Val Phe Ala Ala Leu Leu Glu  
1 5 10 15

Tyr Ala Ala Ile Asn Phe Val Ser  
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<400> 26

Met Gly Tyr Tyr Leu Ile Gln Met Tyr Ile Pro Ser Leu Leu Ile Val  
1 5 10 15

Ile Leu Ser Trp Val Ser Phe Trp Ile Asn Met  
20 25

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<400> 27

Val Gly Leu Gly Ile Thr Thr Val Leu Thr Met Thr Thr Gln Ser Ser  
1 5 10 15

Gly Ser

<210> 28  
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<213> homo sapiens

<400> 28

Ile Trp Met Ala Val Cys Leu Leu Phe Val Phe Ala Ala Leu Leu Glu  
1 5 10 15

Tyr Ala Ala Ile Asn Phe Val Ser  
20

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<212> PRT  
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<400> 29

Lys Gly Pro Pro Val Asn Val Thr Cys Asn Ile Phe Ile Asn  
1 5 10

<210> 30  
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<400> 30

Asn Asp Pro Arg Leu Ser Tyr Arg Glu Tyr Pro Asp Asp  
1 5 10

<210> 31  
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<400> 31

Gly Asn Val Leu Tyr Ser Ile Arg Leu Thr Leu Ile Leu  
1 5 10

<210> 32  
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<400> 32

Leu Ser Val Gly Tyr Thr Met Lys Asp Leu Val Phe Glu  
1 5 10

<210> 33  
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<400> 33

Thr Lys His Tyr Asn Thr Gly Lys Phe Thr Cys Ile Glu  
1 5 10

<210> 34  
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<213> homo sapiens

<400> 34

Leu Arg Glu Gly Glu Thr Thr Arg Lys Leu Tyr Val Asp  
1 5 10

<210> 35  
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<400> 35

Arg Glu Gly Glu Thr Thr Arg Lys Leu Tyr Val Asp  
1 5 10

<210> 36  
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<400> 36

Asp Tyr Lys Asp Asp Asp Asp Lys  
1 5

<210> 37  
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aattcgaggg tgcaccgtca gtcttcctct tcccccaaa acccaaggac accctcatga      120

tctcccgga tctgaggtc acatgcgtgg tgggtggacgt aagccacgaa gaccctgagg      180

tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca aagccgcggg      240

aggagcagta caacagcacg taccgtgtgg tcagcgtcct caccgtectg caccaggact      300

ggctgaatgg caaggagtac aagtgcagg tctccaacaa agccctccca acccccatcg      360

agaaaaccat ctcaaagcc aaagggcagc cccgagaacc acaggtgtac accctgcccc      420

catcccgga tgagctgacc aagaaccagg tcagcctgac ctgcctggtc aaaggcttct      480

atccaagcga catcgccgtg gagtgggaga gcaatgggca gccggagAAC aactacaaga      540

ccacgcctcc cgtgctggac tccgacggct ctttcttct ctacagcaag ctcaccgtgg      600

acaagagcag gtggcagcag gggAACgtct tctcatgctc cgtgatgcat gaggctctgc      660

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gactctagag gat      733

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<400> 40
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<210> 41

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gatgttgtga tgactcagtc tcc	23
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